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EXAMINER	
INGVOLDSTAD, BENNETT	
ART UNIT	PAPER NUMBER
2427	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/821,750	MAGUIRE ET AL.	
	Examiner	Art Unit	
	Bennett Ingvoldstad	2427	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 March 2010*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *70,74,79-93,95 and 97-105* is/are pending in the application.

4a) Of the above claim(s) *87 and 88* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *70,74,79-86,89-93,95 and 97-105* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 24 March 2010 has been entered.

Response to Arguments

Applicant traverses the combination with Rector, making several arguments in Applicant's Remarks and in the 132 declaration, both filed 24 March 2010. However, these arguments are not persuasive.

Applicant characterizes Rector, noting that the video and signal data may be stored as interleaved blocks in an interleaved file format. Applicant then argues that the file is not a table relating time slices of a stimulus signal with responsive signals as a function of time. Remarks at 9. The examiner disagrees. Rector does teach that responsive signals are correlated with time slices of a stimulus signal as a function of time. For example, Rector teaches that a response signal may be analyzed for an anomaly, and a video frame corresponding in time to the anomaly in the response signal is immediately retrieved (col. 10, ll. 39–43). This example teaches that Rector's data is

organized in two dimensions; namely, in a time dimension, and also across variables corresponding to a specific time, such that the video frames are correlated to the response signals. Therefore, Rector's file format is an associative mapping, which may be characterized or illustrated as a table because it is organized two-dimensionally.

Applicant argues that there is no method contemplated or described for adding new response variables at a later time to be stored data. Remarks at 9. However, these features are not claimed and have no nexus with the claim language.

Applicant argues that Rector's file format requires reading through a combined video and data signal to search for values of variables. Remarks at 10. The examiner disagrees. The paper cited in the 132 declaration teaches that the file format can be easily parsed by reading headers describing the data blocks (pg. 156, under "File Format"). Thus, the data blocks themselves do not have to be read until the appropriate header is found, and the file can be easily searched as described.

The remaining arguments in the Remarks are moot in view of the newly cited art.

Applicant further attempts to distinguish Rector in the 132 declaration. Applicant again attempts to contrast the claimed table and Rector's file format. Applicant argues that Rector's file format would require reading through the entire signal and video data. Declaration at 2. The examiner again disagrees and points to the cited document, which teaches that the file can easily be parsed

using header information (pg. 156). Additionally, even if Applicant were correct, the claims do not preclude searching through an entire file in order to locate data along a “row” or “column” of the mapping.

Applicant again argues that Rector shows no accommodation for mixing in additional data. Declaration at 2. However, as noted above, this feature is not claimed.

Applicant argues that Rector's interleaved file format mixes a plurality of data signals into one video file by inserting data into a vertical blanking interval. Declaration at 2. This is incorrect; Applicant appears to be confusing Rector’s analog video storage with Rector’s digital IFF storage. Rector teaches that data may be stored in the VBI or other spaces within an analog signal on a videotape (Fig. 3 and description). Additionally and separately, Rector teaches that data may be stored in an interleaved digital format on a mass storage device (Fig. 4 and description). Further, although Rector does not contemplate a second video signal, a second signal could easily be interleaved with the other plurality of streams on the mass storage according to the described format.

For these reasons, Applicant’s arguments and declaration are not persuasive.

Priority

Applicant previously submitted a declaration under 37 CFR 1.131 establishing the actual reduction to practice of the invention as being prior to the Leroy reference’s filing date.

However, as previously noted, the evidence does not establish the reduction to practice of all the claimed elements.

Claim 70 describes an apparatus for analyzing responses to a plurality of video stimulus streams, comprising storing a multi-channel associative mapping containing the plurality of video streams. However, the evidence only discusses mapping response data to a single video (e.g. Example C), not to the claimed plurality of videos. Thus, the evidence does not establish the reduction to practice of claim 70 or its dependents.

Claim 98 describes associating a stimulus object in a video stream by determining whether a stimulus object is present in a particular time slice of the video stream. Figure 1 of the evidence appears to show a person in a video stream, but no evidence is presented that the software can determine whether or not the person is in a particular time slice of the video stream. Claims 99–102 depend on claim 98 and thus lack support in the same manner.

Therefore, claims 70, 74, 79, and 98–102 do not benefit from the earlier filing date established by the 131 declaration.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 70, 74, and 79 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 5,226,177 ("Nickerson") in view of US 5,517,251 ("Rector") and US 6104948 ("Bogart").

Claim 70. Nickerson teaches an apparatus for analyzing responses to at least one stimulus stream (visually perceptible display, Abstract) comprising an input for receiving responses from one or more respondents to the at least one stimulus stream (see Abstract, Fig. 1); a correlator including a processor configured to correlate the responses with time slices (SMPTE time codes, col. 6, ll. 48–58) of the stimulus stream to generate an associative mapping of the responses and the time slices of the stimulus stream (see Fig. 9 (illustrating a mapping of the correlation of the response signal 130 with video time codes); col. 6, ll. 40–66; col. 8, ll. 4–7); a storage module coupled with the correlator to store the associative mapping including the responses and the time slices of the stimulus stream (col. 6, ll. 40–43); and a user interface operatively coupled with the storage module allowing an operative to search the associative mapping on the basis of analyses of the responses (see col. 10, ll. 49–56 (discussing various statistical analyses that may be performed on the correlated data)).

Although Nickerson stores the time slices (time codes) as digital signals (col. 8, ll. 3–7), Nickerson does not further teach storing the stimulus stream as a digital signal correlated with the associative mapping; rather, it is stored, e.g., on a video tape (col. 7, ll. 18–24). Nor does Nickerson explicitly teach a user interface allowing an operator to retrieve time slices of the stimulus stream for

display wherein playback of the time slices of the stimulus stream may be displayed on the user interface.

Rector teaches an apparatus for correlating a video signal with analog response signals (Abstract). The video signal may be stored on a videotape (col. 2, ll. 40–43) and later stored as a digital signal correlated with the response signals (col. 2, ll. 59–61; col. 4, ll. 1–6; col. 7, ll. 7–18). The signals are associatively mapped by time slices such that the signals are synchronized and integrated in a single file (col. 3, ll. 11–17). The apparatus includes a user interface for searching the associative mapping and retrieving time slices of the stimulus stream for display, e.g., in order to display video correlating to anomalous response signals (col. 10, ll. 36–43; col. 11, ll. 5–11 & 40–50).

It would have been obvious to apply Rector's teaching of digitizing a video tape and correlating the digitized signal with response signals to the system of Nickerson for the purpose of rapidly and effectively analyzing the correlation between the video signal and the response signals (see Rector, col. 11, ll. 5–11 & 40–50).

Nickerson in view of Rector do not teach that multiple video streams are stored in the associative mapping. Bogart teaches a similar system for storing response data correlated with video data (Abstract). Multiple video streams may be correlated (Fig. 2; col. 2, ll. 54–56), the video streams including a scene video and a subject video (col. 3, ll. 30–31). Like in Rector, the stored data may be stored both as a videotape and digitally in long term memory for analysis (col. 4, ll. 35–41).

It would have been desirable to correlate responses with multiple video streams as taught by Bogart for the purpose of providing a scene view of a subject and a subject view, thus storing both broad and detailed stimulus information to allow a better analysis of the responses. Since Rector teaches an interleaved file format for storing multiple streams, one of ordinary skill would have been able to easily store the additional video stream interleaved with the other streams. Therefore, the combination would have been obvious.

Claim 74. Nickerson and Rector further teach storing a multi-channel associate mapping (see claim 70 rejection), thus implying a multi-channel associative cache (a memory, i.e. cache, for storing the multi-channel associative mapping).

Claim 79. Nickerson further teaches that the stimulus stream may be recorded (col. 7, ll. 18–24), i.e. delayed in time.

Claims 80–86, 89, 92, 93, and 95 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nickerson in view of Rector.

Claim 80. Nickerson teaches an apparatus for analyzing a response to a stimulus (Abstract), the apparatus comprising a stimulus input that receives a stimulus signal representing the stimulus (see Fig. 1; col. 2, ll. 58–68 (video program material is received by the central processor in order to overlay the response data on the video signal); Fig. 9); a response input that receives at least one response signal (col. 2, ll. 58–68; Fig. 9 (illustrating response curve 130)), each response signal being indicative of a response to the stimulus at a

time slice of the received stimulus signal (see Fig. 9 (the horizontal axis of the response curve comprises time codes)); and a correlator coupled with the stimulus input and the response input, the correlator correlating digitally stored time slices of the received stimulus signal with each received response signal as a function of time to produce an associative mapping (see Fig. 9 (illustrating a correlation 130, i.e. an associative mapping, between the vertical response axis and the horizontal time axis); col. 8, ll. 3–7 (the time codes are digitally stored by the processor)).

Nickerson does not further teach a storage device having the claimed organized structure.

Rector teaches a storage method for storing response data correlated with video data in an interleaved file format such that blocks representing different streams of data are interleaved with each other (col. 10 ll. 18–31). Because the separate variables are all correlated to a time dimension, they can be represented by a table of variables. The analysis system allows a single variable to be analyzed across time (e.g. a heart rate variable may be analyzed for anomalies, col. 10, ll. 39–41) and across the variables (e.g., a display frame associated with the anomalous heart rate signal can be immediately retrieved, col. 10, ll. 41–42), thus searching by the “rows” and “columns” of the table to retrieve data and video frames.

It would have been obvious to apply Rector’s teaching of digitizing a video tape and correlating the digitized signal with response signals to the system of Nickerson for the purpose of rapidly and effectively analyzing the correlation

between the video signal and the response signals (see Rector, col. 11, ll. 5–11 & 40–50).

Claim 81. Nickerson in view of Rector further teaches a multi-channel associative mapping for recording multiple response signals (Nickerson, col. 8, l. 42-55; Rector, Abstract), thus implying a multi-channel associative cache (a memory, i.e. cache, for storing the multi-channel associative mapping).

Claim 82. Nickerson further teaches that each digital time slice comprises a frame correlated with a response signal 130, since an SMPTE time code is stored on a per-frame basis.

Claim 83. Nickerson in view of Rector further teaches measuring an environmental condition and associating the measurements with the time slices in the associative mapping (Rector, col. 6, ll. 30–35).

Claim 84. Nickerson further teaches that the stimulus stream may be recorded (col. 7, ll. 18–24), i.e. delayed in time.

Claim 85. Nickerson teaches displaying the data as it received, i.e., contemporaneous with its creation (col. 8, l. 7-11).

Claim 86. Nickerson teaches that groups of responses may be associated with different variables (see Fig. 10); and that viewers may be disposed at different angles (e.g., in Fig. 1, a male user of response device 12 is disposed at a different angle than a female user of apparatus 14).

Claim 89. Nickerson teaches an analyzer for statistically analyzing the response signals (col. 10, l. 49–56), wherein the analyzer may be used to find

selected segments of the stimulus signal, such as a "question 4" segment (Fig. 10).

Claim 92. Nickerson in view of Rector further teaches a graphical user interface for selecting which statistical analysis is performed (see Nickerson, col. 8, ll. 56–63).

Claim 93. Nickerson in view of Rector further teaches means for displaying the associative mapping (see Nickerson Fig. 9).

Claim 95. Nickerson in view of Rectorfurther teaches storing the associative mapping so that the user can randomly select and access content from the storage device (see Rector, col. 11, ll. 5–11 & 40–50).

Claim 90 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nickerson in view of Rector and the provided definition of "interpolation."

Claim 90. Nickerson teaches performing a statistical analysis on the response signals (col. 10, l. 49–56), but does not explicitly teach that the statistical analysis comprises an interpolation.

The provided definition 3.b. teaches that the "Method of Interpolation" is useful for determining an equation between time and a quantity determined by observations.

Therefore, it would have been obvious to use the described Method of Interpolation for the purpose of finding an equation between the time and the

observed response signals, thus allowing for the inference of additional information based on the known information.

Claim 91 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nickerson in view of Rector and the provided definition of "extrapolate."

Claim 91. Nickerson teaches performing a statistical analysis on the response signals (col. 10, l. 49–56), but does not explicitly teach that the statistical analysis comprises an extrapolation.

The provided definition 2.a. teaches that extrapolation is useful for estimating the values of a series outside a range in which some of its values are known.

Therefore, it would have been obvious to use the extrapolation method for the purpose of estimating the values of such series as the response curve 130 (Fig. 9) or the age groups (Fig. 10) outside of the known values in order to infer additional information based upon the known information.

Claims 97 and 103–105 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nickerson in view of Rector and US 5666157 ("Aviv").

Claim 97. Nickerson teaches a method for analyzing responses to at least one stimulus stream (visually perceptible display, Abstract) comprising receiving responses from one or more respondents to a stimulus stream (see Abstract, Fig. 1); a correlator for associating the responses with time slices (SMPTE time

codes, col. 6, ll. 48–58) in which the responses are made (see Fig. 9 (illustrating a mapping of the correlation of the response signal 130 with video time codes); col. 6, ll. 40–66; col. 8, ll. 4–7); a storage module coupled with the correlator to store the associative mapping including the responses and the time slices of the stimulus stream (col. 6, ll. 40–43); and a user interface operatively coupled with the storage module allowing an operative to search the associative mapping on the basis of analyses of the responses (see col. 10, ll. 49–56 (discussing various statistical analyses that may be performed on the correlated data)).

Nickerson does not further generating the claimed summary video.

Rector teaches a similar method for correlating response to video signals (Abstract). The apparatus further includes a user interface for searching the associative mapping for anomalous responses and retrieving the corresponding time slices of the stimulus stream for display (col. 10, ll. 36–43; col. 11, ll. 5–11 & 40–50). Rector thus automatically locates “highlights” of the video by analyzing the response signal. However, Rector does not further teach compiling the highlights into a summary video.

It would have been obvious to apply Rector’s teaching of digitizing a video tape and correlating the digitized signal with response signals to the system of Nickerson for the purpose of rapidly and effectively analyzing the correlation between the video signal and the response signals (see Rector, col. 11, ll. 5–11 & 40–50).

Aviv teaches a security system containing video cameras and audio sensors, wherein captured video and audio data is monitored and analyzed (col.

10, ll. 38–44). When a sensor anomaly is detected, video data is automatically stored separately for immediate and subsequent analysis of the video signals corresponding to the anomaly (col. 7, ll. 26–54). The system thus automatically generates a summary video comprising frames related to the anomalous signal. The stored video images may be non-contiguous snapshots, e.g. a subset of frames sampled for analysis (col. 7, l. 61 – col. 8, l. 18).

It would have been obvious to implement Aviv's automatic summary video generation in the method of Nickerson in view of Rector, thus automatically separately storing the highlight segments as determined by the automatic anomalous signal analysis.

Claim 103. Nickerson and Rector further teach a multi-channel associative mapping for recording multiple response signals (Nickerson, col. 8, l. 42-55; Rector, Abstract).

Claim 104. Nickerson in view of Rector further teaches logging locations of stored time slices of the at least one stimulus stream so that the associative mapping directs retrieval of time slices for playback (Rector, col. 11, ll. 5–11 & 40–50).

Claim 105. Nickerson in view of Rector further teaches measuring an environmental condition and associating the measurements with the time slices in the associative mapping (Rector, col. 6, ll. 30–35).

Claims 98–100 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nickerson in view of Rector, Aviv, and US 5,812,642 ("Leroy").

Claim 98. Nickerson in view of Rector does not further teach determining whether an object is present in a time slice and associating the determination with the time slice in the associative mapping.

Leroy teaches a method for analyzing response signals to a promotion stimulus stream (Abstract) wherein the stimulus stream comprises objects such as people (see Fig. 7: "BOB"; and col. 7, ll. 42–60). The method determines which time slices the object is present in (see Fig. 7). The determination is associating with a time slice in an associative mapping of the stimulus stream, the time data, and the response data (see Fig. 7).

It would have been obvious to add Leroy's method for determining when objects are present in the stimulus stream for the purpose of analyzing the response data with respect to a particular object, thus providing more specific information about the response associated with that object (see Leroy, col. 7, ll. 50–52).

Claim 99. Leroy further teaches that the object comprises a person (col. 7, ll. 42–60).

Claim 100. Nickerson further teaches that the stimulus stream is a video (col. 7, l. 59-68), which comprises an audio stream.

Claims 101 and 102 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nickerson in view of Rector, Leroy, Aviv, and Cobbley.

Claims 101, 102. Nickerson in view of Rector and Leroy does not further teach an automatic audio analyzer for analyzing the audio stream to produce text strings that are searchable through the user interface.

Cobbley teaches an apparatus for selectively playing back segments of a video by selecting index information associated with the segments (Abstract). The user may search for text strings to locate the selectable segment (col. 10, ll. 21–38; col. 12, ll. 41–56). The text strings may be generated by an automatic audio analyzer (col. 4, ll. 41–43).

It is obvious to combine known elements according to known methods to yield predictable results. Therefore, it would have been obvious to combine Cobbley's automatic audio analyzer with the apparatus of Nickerson in view of Rector and Leroy according to the described method of searching for and selecting video segments using text strings, thus yielding predictable results because the apparatus divides videos into selectable segments (time slices).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bennett Ingvoldstad whose telephone number is (571) 270-3431. The examiner can normally be reached on M–F 9–5 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Scott Beliveau can be reached on (571) 272-7343. The

fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Bennett Ingvoldstad/
Examiner, Art Unit 2427

/Scott Beliveau/
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